

# Toward Better Understanding of How Fathers Contribute to Their Offspring's Health

Craig F. Garfield, MD, MAPP

Fathers' time spent involved in child-rearing activities has more than doubled since 1965,<sup>1</sup> necessitating researchers, policy makers, and clinicians to better understand the unique ways in which fathers contribute to child health. Research in the past 2 decades has found that fathers contribute to child health in a variety of ways that have an impact not just on the father but on his partner and child as well. For example, there is evidence that father involvement increases the likelihood of the mother receiving appropriate prenatal care,<sup>2</sup> reduces infant mortality,<sup>3</sup> and improves breastfeeding rates.<sup>4</sup> Biologically, paternal age has been associated with a number of child health outcomes, including autism and bipolar disease, although the exact mechanism is not known.<sup>5</sup> These examples raise the question of how fathers might contribute to their offspring's health before the children are even born and what preconception or prenatal effects fathers might have.

In this issue of *Pediatrics*, Yang et al<sup>6</sup> sought to examine the association between fathers' use of selective serotonin reuptake inhibitors (SSRIs) during the 3 months preconception, a vulnerable exposure window for spermatogenesis, and the future risk of attention-deficit/hyperactivity disorder (ADHD) in their offspring. By using data from the remarkably comprehensive Danish Medical Birth Registry of 781 470 linked-birth cohorts from 1996 to 2008, the authors examined children who were born to

fathers who filled a prescription for an SSRI during the exposure window and the >12 000 children diagnosed with ADHD. The authors also creatively separated the effects of SSRI use from underlying paternal conditions by extending the exposure window to 1 year before conception but not during the 3-month susceptibility window. Because spermatogenesis occurs during the 3 months before conception, these former users reflect the effects of the underlying indication for SSRI use but not the drug itself. On the basis of these results, the authors concluded that although there is some increased risk among SSRI users, the underlying paternal mental health disease may itself be a risk factor for ADHD in offspring.

These findings highlight a number of clinical and public health implications for fathers and families, foremost among them being the notion of preconception health. Preconception health originally focused on women and led to important initiatives to improve maternal physical and mental health, oral health, and health care access, all of which did double duty by improving the health of women and their children. As an acknowledgment of the role men play in healthy pregnancies and offspring, the concept of preconception health has now expanded to encompass men. Clinical content for preconception care has been outlined and includes aspects that contribute to the father's health in its own right as well as ways in which his health might benefit his partner's

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pregnancy and their offspring.<sup>7</sup> Examples include a reproductive life plan, current and past health risk assessments, opportunities for health promotion, and clinical and psychosocial interventions designed to optimize adolescent and young men's health. More recent work has outlined a research agenda designed to foster growth in this underdeveloped area.<sup>8</sup> Specifically, calls have been made in support of a more mature knowledge base around men's preconception health, ranging from basic science to epidemiologic studies, evaluation of social strategies and interventions designed to support men's health, and policies that outline the financial, professional, and legal resources that can benefit men's health during the transition to parenthood.

From a clinical perspective, this study reinforces the importance of identifying mental health disorders among men transitioning to fatherhood and among current fathers. Fathers frequently experience depression, particularly in the early years. Of fathers, >20% will have experienced depression by the time their children are 12 years old.<sup>9</sup> Fathers coresiding with their offspring have reported a 68% increase in their depressive symptoms in the first 5 years of fatherhood, which are key developmental years for children.<sup>10</sup> Several studies have found associations between paternal mental health and behavioral issues in offspring. A meta-analysis of fathers' mental health and child psychopathology found that paternal depression was significantly correlated with child and adolescent internalizing behaviors.<sup>11</sup> The Avon Longitudinal Study of Parents and Children showed that paternal depression in the postpartum period was associated with an increase in child conduct problems at ages 3 to 5 years.<sup>12</sup> Once at-risk fathers are identified, they can

and should be treated for their underlying disorders. It may be welcome news for practitioners and (prospective) parents who may be wary of using SSRIs before conception for the management of paternal psychopathology to learn from this study that SSRIs taken around conception are unlikely to increase offspring's risk of ADHD. In fact, providing treatment of fathers' underlying mental health disorders may improve fathers' and families' functioning, ultimately improving their children's outcomes.

Finally, from an epidemiologic perspective, Yang et al's study<sup>6</sup> points to the value of collecting comprehensive data in large, linkable data sets that span the life course to rigorously study the health of the public, especially at the interface of men's health and fatherhood. Models like the Danish Medical Birth Registry currently do not exist in the United States. Piecemeal data sets are available and serve as important primary sources for collecting large samples to address public health concerns. The Pregnancy Risk Assessment Monitoring System, for example, is a surveillance project of the Centers for Disease Control and Prevention and state health departments and collects state-specific, population-based data on attitudes and experiences before, during, and shortly after pregnancy but for mothers only. Researchers in other studies strive to include fathers (ie, the Fragile Families and Child Wellbeing Study and the National Survey of Family Growth) yet capture minimal preconception data. No existing data set is dedicated to fathers in the perinatal period, and few comprehensively follow fathers over time. Even a less ambitious survey of men's health during the transition to fatherhood would be a useful start to further understand the unique contributions of fathers to families and children and build a case for a more complete, longitudinal

study of both parents and their transitions to parenthood.

As father involvement continues to increase so must our understanding of its unique benefits and challenges. Sustaining a vision of father involvement that starts in the preconception period is likely to result in the most comprehensive, applicable, and actionable approach to maximizing father, family, and child outcomes.

## ABBREVIATIONS

ADHD: attention-deficit/hyperactivity disorder  
SSRI: selective serotonin reuptake inhibitor

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